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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/043,377	01/11/2002	Michael Wall	N8837	4667

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LARGESCALE BIOLOGY CORPORATION
BANK OF AMERICA PLAZA, SUITE 2020
414 UNION STREET
NASHVILLE, TN 37219

EXAMINER

SMITH, CAROLYN L

ART UNIT PAPER NUMBER

1631

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/043,377

Applicant(s)

WALL, MICHAEL

Examiner

Carolyn L Smith

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-27 is/are pending in the application.
- 4a) Of the above claim(s) 17-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15, 16, 25-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicants' submission, filed 12/6/04, has been entered.

Amended claim 15, filed 12/6/04, is acknowledged.

Claims herein under examination are 15-16 and 25-27. Claims 17-24 remain withdrawn.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 15-16 and 25-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15, line 5, recites the phrase "based on" which is vague and indefinite. It is unclear what parameters and to what degree these parameters must be met to be considered "based on". Clarification of this issue via clearer claim wording is requested. Claims 16 and 25-27 are also rejected due to their dependency from claim 15.

Claim 15, step d), recites "repeating steps b) and c) with all unassembled sequence reads" which is confusing. The first occurrence of step b) categorizes the sequence reads into

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subgroups and step c) matches sequence reads within the subgroups to create assemblies. Since it appears all of the reads are placed in one of the assemblies, there doesn't appear to be any "unassembled sequence reads" present for step d). Clarification of this issue is requested. Claims 16 and 25-27 are also rejected due to their dependency from claim 15.

Claim Rejections – 35 USC §102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 15-16 and 25-27 are rejected under 35 U.S.C. 102(e)(1) as being anticipated by Sayood et al. (US 2003/0224384 A1).

Sayood et al. disclose using and processing data sets of a plurality of sequences from the NCBI website (paragraph 0111 and 0112) which represents providing a plurality of sequence reads into a computer, as stated in step a) of instant claim 15. Sayood et al. disclose a computerized method for assembling subsequences of a DNA sequence by assigning a numerical characterization to each subsequence wherein numerical characterization comprises a set of numbers, clustering the sets of the sequences, and aligning the sets to form a consensus sequence

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for each cluster (claim 1 and abstract) which represents categorizing within a computer a plurality of sequence reads into at least two subgroups based on an identifiable numerical characteristic (size) in each subgroup, and matching within the computer sequence reads to create assemblies within each subgroup, as stated in steps b) and c) of instant claim 15. Sayood et al. disclose clustering as grouping elements of a set subject to a certain measure of similarity (paragraph 0051). Figure 2 shows two clusters and their corresponding consensus sequences. Figure 3 shows a clustering from the two previous clusters. Sayood et al. disclose generating consensus sequences of the second generation clusters which are considered to be a new collection of fragments, repeating the same procedure as was applied to the original collection of fragments, and repeating this recursion process until there is one cluster left or until no new cluster is born after all clusters are processed (paragraph 0075 and 0076) which represents repeating steps b) and c) with all unassembled sequence reads and newly created assemblies, as stated in step d) of instant claim 15. Sayood et al. disclose the results of the final consensus sequence (paragraph 0113 and Figure 3) which represents providing an assembled sequence to the user, as stated in step e) of instant claim 15. Sayood et al. disclose creating graphs (paragraphs 0009, 0011, and 0072 as well as claims 5 and 18) which also represents step e) of instant claim 15. Sayood et al. disclose defining a coordinate vector for each subsequence corresponding to numerical characterizations of the subsequence and clustering the vectors followed by alignment of subsequences of corresponding vectors to form a consensus sequence for each cluster (paragraph 0020) wherein the clustering represents identifying sequence reads of similar numerical characterizations, or sizes, as stated in instant claim 16. Sayood et al. disclose using average mutual information (AMI) profiles to measure a degree of closeness between

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fragments (paragraph 0045). Sayood et al. disclose AMI profiles have been used to recognize coding regions in DNA (paragraph 0049) which represents an identifiable characteristic different from the characteristic used in step b), as stated in instant claim 26. Sayood et al. disclose the use of PHRAP for matching in order to find overlaps and construct contig layouts (paragraph 0012), as stated in instant claim 27. Sayood et al. disclose the AMI profile function equation may include length (paragraphs 0048 and 0049).

Thus, Sayood et al. anticipate the instant invention.

Conclusion

No claim is allowed.

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center. The faxing of such papers must conform to the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 CFR §1.6(d)). The Central Fax Center number for official correspondence is (571) 273-8300.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carolyn Smith, whose telephone number is (571) 272-0721. The examiner can normally be reached Monday through Thursday from 8 A.M. to 6:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ardin Marschel, can be reached on (571) 272-0718.

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Any inquiry of a general nature or relating to the status of this application should be directed to Legal Instruments Examiner Tina Plunkett whose telephone number is (571) 272-0549.

March 16, 2005

MARJORIE A. MORAN
PRIMARY EXAMINER

Marjorie A. Moran
3/17/05